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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,133	04/09/2001	Erol Tan	RAY4066P0016US	1047

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WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
500 W. MADISON STREET
SUITE 3800
CHICAGO, IL 60661

EXAMINER

TORRES VELAZQUEZ, NORCA LIZ

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,133

Applicant(s)

TAN ET AL.

Examiner

Norca L. Torres-Velazquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13,14,18,21,25,30-32,34,35,39,45,48 and 51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13,14,18,21,25,30-32,34,35,39,45,48 and 51 is/are rejected.
- 7) ☒ Claim(s) 45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/341,340.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 06, 2004 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claim 51, 13-14, 18, 21, 25, 30-32, 34-35, 39, 45 and 48 have been considered but are moot in view of the new ground(s) of rejection.

3. In their arguments, Applicants stated that the material claimed in claim 51 includes a combination of air laid superabsorbent and air laid cellulosic fibers. It is noted that claim 51 only claims that the cellulosic fibers are air laid.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 51, 13-14, 18, 21, 25, 30-32, 34-35, 39, 45 and 48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WEISMAN et al. (US 4,610,678).

WEISMAN et al. discloses an absorbent structure suitable for use in disposable absorbent products. (Col. 8 lines 31-33) The reference teaches (a) air-laying a dry mixture of hydrophilic fibers and particles of a water-insoluble hydrogel (equated to the presently claimed SAP) in a fiber/hydrogel weigh ratio of from about 30:70 to about 98:2 into a web and (b) compressing the web to a density of from about 0.15 to about 1 g/cm³. (Col. 3, lines 41-53) The reference teaches using cellulose fibers as the preferred type of hydrophilic fibers, in particular wood pulp fibers. (Col. 5, lines 16-33) Based on a cost/performance analysis, fiber/hydrogel ratios of from about 75:25 to about 90:10 are preferred. (Col. 5, lines 58-60) The reference further teaches basis weights in the range from about 0.01 g/cm² to about 0.05 g/cm² [100-500 g/m²]. (Col. 9, lines 14-20) The reference further teaches that the absorbent structures of their invention have a Gurley Stiffness value preferably of less than about 1g. [That equates to a suppleness greater of 1/g]. (Col. 12, lines 3-6) The reference further notes that their structure can be prepared by various types of fibers producing similar results, among those fibers are chemo-thermo mechanical softwood fibers. (Col. 14, lines 33-38) With regards to claim 25, it is noted that the broad teachings of the reference will read on the process claimed by applicants. It is noted that the ratios taught by the reference read on the percentages of cellulosic fibers and superabsorbent material claimed in the present invention.

Although WEISMAN et al. does not explicitly teach the claimed Kappa value of the pulp of less than about 100 and the relative crystallinity of less than about 65 percent of at least some

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of the cellulosic fibers, it is reasonable to presume that these properties are inherent to the absorbent structure of WEISMAN et al. Support for said presumption is found in the use of like materials (i.e. absorbent structure made by air-laying cellulosic fibers and hydrogel (equated to SAP) that are densified by compacting them). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties of Kappa value of the pulp of less than about 100 and the relative crystallinity of less than about 65 percent of at least some of the cellulosic fibers would obviously have been present one the [Smith] product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC 102. Further, the same applies to the claimed properties of normalized drying power energy and normalized wicking energy. The Examiner presumes that these are also inherent to the absorbent structure of WEISMAN et al. for the reasons stated above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 51, 13-14, 18, 21, 25, 30-32, 34-35, 39, 45 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over COOK et al. (US 5,360,420) in view of WEISMAN et al. (US 4,610,678).

COOK et al. teaches absorbent structures that can be used in absorbent articles such as diapers. (Col. 1, lines 14-22) The absorbent structure of COOK et al. comprises a storage layer

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that comprises at least about 15% by weight, of superabsorbent material and from 0% to about 85% of a carrier means for the superabsorbent material. (Col. 4, lines 42-44) Suitable fibrous carrier means are cellulose fibers, in the form of fluff. (Col. 20, lines 10-11) The reference teaches that a density in the range of from about 0.06 to about 0.5 g/cm³ for the fluid storage layer. (Col. 20, lines 28-30) COOK et al. further teaches that webs comprising absorbent gelling material particles and non-superabsorbent fibrous carrier means will typically have from about 10% to about 80%, more typically from about 20% to about 75%, polymeric gelling material and from about 20-90%, more typically from about 25-90%, carrier means. Such webs will typically be made by air-laying. (Col. 21, lines 54-60) The reference further teaches that the storage layer comprises an air-laid mixture of conventional cellulosic fluff (Foley fluff, southern softwood kraft pulp). (Col. 26, lines 66-68)

COOK et al. fails to teach compacting the material after air laying to a density of from about 0.25 g/cc to about 0.5 g/cc.

WEISMAN et al. discloses an absorbent structure suitable for use in disposable absorbent products. (Col. 8 lines 31-33) The reference teaches (a) air-laying a dry mixture of hydrophilic fibers and particles of a water-insoluble hydrogel (equated to the presently claimed SAP) in a fiber/hydrogel weigh ratio of from about 30:70 to about 98:2 into a web and (b) compressing the web to a density of from about 0.15 to about 1 g/cm³. (Col. 3, lines 41-53) The reference further teaches that the absorbent structures of their invention have a Gurley Stiffness value preferably of less than about 1g. [That equates to a suppleness greater of 1/g]. (Col. 12, lines 3-6) The reference further notes that their structure can be prepared by various types of fibers producing similar results, among those fibers are chemo-thermo mechanical softwood fibers.

(Col. 14, lines 33-38) With regards to claim 25, it is noted that the broad teachings of the reference will read on the process claimed by applicants.

Since both, COOK et al. and WEISMAN et al., are directed to absorbent structures comprising a mixtures of superabsorbent material and cellulosic fibers, the purpose disclosed by WEISMAN et al. would have been recognized in the pertinent art of COOK et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the fluid storage layer of COOK et al. and provide with densification with the motivation of reducing the void volume of the structure and produce a structure with better wicking of fluid so that more hydrogel (SAP) particles participate in the absorption process, which results in a higher actual absorbent capacity as disclosed by WEISMAN et al. (Col. 6, lines 8-14).

Although COOK et al. and WEISMAN et al. do not explicitly teach the claimed Kappa value of the pulp of less than about 100 (or 75) and the relative crystallinity of less than about 65 (or 60) percent of at least some of the cellulosic fibers, it is reasonable to presume that these properties are inherent to the absorbent structure of WEISMAN et al. Support for said presumption is found in the use of like materials (i.e. absorbent structure made by air-laying cellulosic fibers and hydrogel (equated to SAP) that are densified by compacting them). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties of Kappa value of the pulp of less than about 100 and the relative crystallinity of less than about 65 percent of at least some of the cellulosic fibers would obviously have been present one the [Smith] product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC

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102. Further, the same applies to the claimed properties of normalized drying power energy and normalized wicking energy. The Examiner presumes that these are also inherent to the absorbent structure of WEISMAN et al. for the reasons stated above. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80.

Double Patenting

9. Claims 45 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 39. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

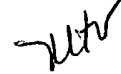
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

WLT
8/27/04

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Norca L. Torres-Velazquez
Examiner
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August 27, 2004